

# PATENT COOPERATION TREATY

Translation

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

<div style="border: 1px solid black; width: 100%; height: 100%;"></div>		Date of mailing (day/month/year)
Applicant's or agent's file reference		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No.	International filing date (day/month/year)	Priority date (day/month/year)
International Patent Classification (IPC) or both national classification and IPC		
Applicant		

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE  
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International application No.

PCT/JP2004/003685

Box No. 1

Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

**2. Citations and explanations:**

Document 1: JP 8-123180 A, (Matsushita Electric Industrial Co., Ltd.), 17 May 1996 (17.05.96), Full text, Figs. 1 to 14

Document 2: JP 2001-109248 A (Ricoh Co., Ltd.) 20 April 2001 (20.04.01), Par. Nos. 0001 - 0020, Figs. 1 and 2

Document 3: JP 62-115484 A (Ricoh Co., Ltd.) 27 May 1987 (27.05.87), Full text, Fig. 1

The inventions of claims 1 to 6 and 13 to 17 do not appear to involve an inventive step given document 1 cited in the ISR. Document 1 describes a developing device applicable to an image forming device using an electronic copier format, and furthermore, describes attachment of an elastic, malleable first transport member (13a) to a first rotation member (12a) of a toner remainder detecting device, and detection of the first transport member by a magnetic sensor (14) as a means of detecting the toner remainder; thus the constituent feature of having the location detected by the magnetic sensor by a separate entity would be easy for a person skilled in the art.

The inventions of claims 7 and 8 do not appear to involve an inventive step given document 1 and document 2 cited in the ISR. Document 2 describes the installation of a plurality of magnetic sensors for the purpose of enabling toner remainder detection over an extensive area. Also, a constitution wherein a plurality of magnetic sensors as described in document 2 are installed, given the magnetic sensors described in document 1, would be easy for a person skilled in the art. In addition, since the magnetic sensor described in document 1 detects toner remainder by distance from the auxiliary detection part, a constitution wherein the maximum detectable distance of the plurality of sensors is varied would be easy for a person skilled in the art.

The inventions of claims 9 to 12 do not appear to involve an inventive step given document 1 and document 3 cited in the ISR. Document 3 describes a constitution for detecting toner remainder when a copying operation is performed, wherein a toner end warning is given when a near-end detection signal is input and a number of copies possible is indicated. Further, document 1 and document 3 belong to the same technical field, so combining the constitution described in document 1 and the constitution described in document 3 would be

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of Box V:

easy for a person skilled in the art.